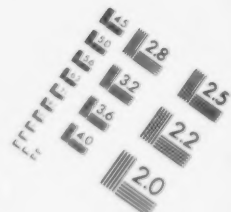
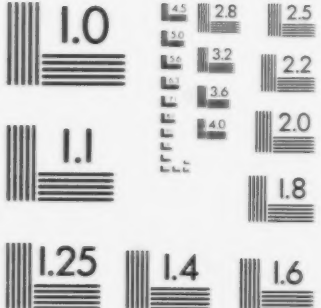
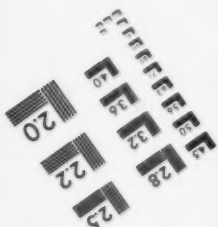


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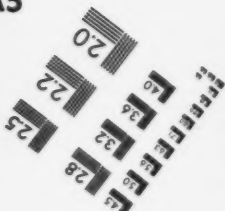


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ABSTRACT

This report addresses three uses for computers in instruction: (1) as tutor; (2) as learning tool; and (3) as educational management tool. Policies, standards, and guidelines which are fundamental to an environment where computers support instruction are presented. A "people" network is proposed to provide an infrastructure for instructional computing support; people in this network will represent resource centers, teacher education institutions, the Department of Education, district offices, and school sites. This network will be supported by an electronic link with at least one receiving station at each school site, which will provide access to central resources, as well as provisions for communication among network members. Plans for developing this network are proposed and suggestions are provided for the involvement of school districts, community colleges, and state university colleges of education. Technology demonstration projects are also proposed as a means of stimulating creativity and innovation at the local level. Appropriations of \$14.4 million, \$20.2 million, and \$10.7 million are recommended for 1986-87, 1987-88, and 1988-89; over 95% of these funds will go to school districts, community colleges, and state universities to help implement their instructional computing support plans. A list of task force members and a three-year budget for implementing the network are appended. (Author/JB)

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A NETWORK FOR TEACHER SUPPORT

**Report of the Commissioner's Task Force
on Instructional Computing**

Overview

Policies, Standards and Guidelines

A "People" Network

Developing the Network

Technology Demonstration Projects

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A. Task Force Members

B. Three-year Budget for Implementing Network

State of Florida
Department of Education
Ralph D. Turlington, Commissioner
February 10, 1986

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ABSTRACT

The report of the 1985 Commissioner's Task Force on Instructional Computing addresses three uses for computers in instruction: tutor, learning tool, and educational management tool. Policies, standards and guidelines which are fundamental to an environment where computers support instruction are presented.

A "people" network is proposed to provide an infrastructure for instructional computing support. The people in this network will represent resource centers, teacher education institutions, the Department of Education, district offices and school sites. The people network will be supported with an electronic link with at least one receiving station at each school site. This will provide access to central resources, as well as provisions for communication among network members.

Each school district, community college and state university college of education will be invited to develop an instructional computing support plan. Funds are recommended to assist in implementing those plans. Technology demonstration projects are also proposed as a means of stimulating creativity and innovation at the local level.

Appropriations of \$14.4 million, \$20.2 million and 10.7 million are recommended for 1986-87, 1987-88 and 1988-89, over 95 percent of which will go to school districts, community colleges and state universities to help implement their instructional computing support plans.

A NETWORK FOR TEACHER SUPPORT

The Commissioner's Task Force on Instructional Computing was established to take a broad view of instructional computing and then to determine how computers can contribute most significantly to instruction in Florida. Our fifteen members represent all levels of public education and a wide variety of educational assignments. Five are classroom teachers. (See Appendix A for task force membership.)

In addressing the above purpose, we considered both computing and instruction. A resource notebook on instructional computing and instructional computing support in Florida was compiled. Instructional computing authorities from four other states and the federal government were consulted. Discussions were held with authorities on emerging areas in computing including local area networks, interactive video, robotics and artificial intelligence.

This report represents the consensus achieved by the committee regarding the potential benefits of computers in instruction and a strategy for achieving these benefits.

Overview

The work of the task force was driven by a primary goal: increasing student learning. We view the improvement of instruction as a key element in increasing student learning. We see the computer as an invaluable tool for the teacher. Thus, this report focuses on strategies for giving teachers greater access to computers and software, and helping those teachers to develop the skills they need to use them.

Computers can be used in instruction in three primary ways: as a tutor, as a learning tool for students, and as an educational management tool for teachers and administrators.

As a tutor the computer can present new information and can also conduct drill and practice sessions with infinite patience. Well-written tutorial programs elicit student responses frequently. Subsequent information or questions from the computer are contingent upon those student responses. This approach allows instruction to be paced at levels appropriate for each student.

As a learning tool, the computer enhances the student's ability to manipulate words or symbols. Students can use word processing programs to aid in composition, spreadsheet programs for manipulating numeric data, data bases for organizing information, graphics programs for design work, and programs which do modeling or simulation for studying a wide variety of phenomena.

As an educational management tool, the computer can provide instructional support to teachers, school administrators and district level personnel. Uses include maintaining necessary student records, monitoring and analyzing student progress, and keeping track of instructional resources.

The task force sees a need for a statewide strategy to support teachers in the use of computers for instruction. At the core of this strategy is an infrastructure which can continue to serve teachers as technology advances. The infrastructure consists of a "people network" providing a contact person in each school, leadership for instructional computing in each school district, community college, and college of education, and overall coordination from the state level.

Policies, Standards and Guidelines

The task force considers the following policies, standards and guidelines to be fundamental to an environment where computers support instruction.

1. All students should be provided equitable access to computers and related technology in order to assure that none are denied the opportunity to participate fully in the benefits of technology.
2. The use of computers in all curriculum areas, including instruction, management, and exploration, should be encouraged.
3. State certification requirements should be implemented for computer education teachers, as well as for all other teachers, with a provision for "grandfathering in" those who have already acquired computer training.
4. Each school district, community college, and university should develop a training program for its instructional personnel in the use of microcomputers.
5. Each school district, community college and university should establish a mechanism to provide instruction to educational personnel in the use of microcomputers.
6. Each school district, community college and university should identify someone to be responsible for the instructional computing support program and to manage the training program for educational personnel.
7. Curricula for instructional personnel who use computers should reflect the special needs of each group and needs within each group, but all should have an opportunity to learn application packages such as word processing, spreadsheets, and data base management.

8. Lines of communication to provide assistance and support to those who use computers for instruction should be established among school districts, community colleges and universities.
9. The State should encourage networking including FIRN and local area networks when this technology can support instructional programs.
10. Program criteria for community college and university program reviews and on-site district audits should be expanded to include evidence of the use of technology for management and instruction.
11. The DOE should review all vocational programs to ensure that training is consistent with technological requirements of jobs.
12. The DOE should pursue software license agreements on behalf of districts and institutions.
13. The DOE should pursue mechanisms for software development for statewide distribution.
14. The State should develop a statement of policy on copyright as it pertains to software.
15. The State should sponsor further research into the uses of computer technology and software for instructional support.
16. Newly constructed school facilities should include designed provisions for wiring or other transmission mechanisms for computer networking.

A "People" Network

A "people network" is proposed to provide an infrastructure for instructional computing support. This network will facilitate the interchange of information and provide encouragement and support to those who may be intimidated by the rapidly changing technology. The people in the network will be from resource centers, teacher education institutions, the State Department of Education, school district and community college central offices, and school sites.

Resource centers will include instructional computing resource centers (three are now supported in Florida), centers of excellence (created under Section 228.086, Florida Statutes), diagnostic learning resource centers (established to support education for exceptional students), and others. These centers will collect information and build data bases to support teachers and instruction.

Participation in the network by teacher education institutions and other institutions involved in inservice teacher education

will maintain a vital link between those institutions and the teachers in the field. This link should facilitate sharing of information and expertise.

State coordination of the network will be performed by the Department of Education. This coordination will include periodic meetings of network representatives, statewide dissemination of information, monitoring network activities, and arranging for new resources or services.

Each school district or community college should have a plan for using computers in instruction, including support for teachers. There should be a designated coordinator in each district and college to monitor activities under the plan and to maintain liaison with district support personnel and school site representatives.

The school site coordinator should be a person who can be contacted by any teacher any day for help in obtaining software, training, or information relating to the use of computers for instruction. At some schools this person will also provide the help, while at others the person will be a liaison who relays requests to the appropriate people outside the school.

The people network will be supported with an electronic link. This will allow every member of the network to communicate with any other member of the network. Every network site--resource center, teacher education institution, district contact office, community college campus, and school site--will have a station, normally a microcomputer, to communicate with others in the network. This station will provide for local printing. It will also have a disk drive to allow messages, files or other information transmitted to be captured for subsequent editing, printing or copying. At school sites, the equipment will be available for the use of teachers and will be housed in a location which will make this convenient, such as in a teacher's workroom. The link will allow network members to access data bases at resource centers containing resource directories, software reviews, test items and other aids for teachers. It will also provide access to statewide bulletin boards and allow communication among individuals or groups.

Developing the Network

Each school district, community college and state university college of education will be invited to develop an instructional computing support plan. Guidelines for preparing the plans will be developed with direct involvement of practitioners in the field. The plans will be submitted to the Department of Education for review and approval. The review process will involve persons knowledgeable in the areas of curriculum, school administration and educational computing. When approved by the Commissioner, each district or institution can receive supplemental funding for assistance in implementing its plan.

The amount of funding will be determined by the legislative appropriation. A proposed budget appears in Appendix B.

Each plan shall include provisions for the following:

1. Making hardware and software available for supporting instruction, including at least one station at each school site for linking with the statewide instructional computing support network.
2. Training in the use of the hardware and software for instructional support, using district staff development funds as appropriate.
3. Continuing support for teachers, with training (or at least a contact person) available at each school site.
4. Provision for the use of computers as a tool for both teachers and students (i.e. not restricting the use of computers to tutorial applications).
5. Evidence of cooperative planning among school districts, colleges and universities.

Technology Demonstration Projects

Technology demonstration projects are proposed as a means of stimulating creativity and innovation at the local level. Each project selected for implementation would be funded for \$8,000, with the proposer required to provide matching funds (or equivalent resources). A final report describing project activities will be required. A major criterion for project selection will be that the proposed activity is an innovative use of instructional technology at the school or classroom level.

Proposed projects will be solicited that address the traditional curriculum areas (mathematics, science, language arts, music, etc.), and may address any grade level from kindergarten through university. The solicitation of proposals, review of applications, and monitoring of projects will be handled through the Department of Education. The Department will also see that materials and procedures developed by each project will be made available to Florida educators through the resources of the people network.

APPENDIX A

TASK FORCE MEMBERS

Ireland Brock, Principal, Escambia High School, Pensacola

George Dawson, Associate Professor (Science Education),
College of Education, Florida State University

Donald A. Dellow, Dean of Instructional Affairs, Chipola Junior
College, Marianna

- * Wil Dershimer, Department Chairman, Information Processing,
Seminole Community College, Sanford

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Jacksonville

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- ** Marilyn Neff, Director, Computer Education and Technology, Dade
County Schools

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Myers

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Lake Worth

James E. Surrant, Superintendent of Schools, Volusia County

Carol Todd, Teacher, Woodlawn Elementary School, Sebring

Andria Troutman, Director, Florida Center for Instructional
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Jeaninne N. Webb, Director, Office of Instructional Resources,
University of Florida

Beverly Williams, Teacher (Business Education), Hollywood Hills
High School, Hollywood

James Yopp, Director of Elementary Education, Columbia County
Schools

* Task Force Chairperson

** Task Force Co-chairperson

APPENDIX B

A THREE YEAR BUDGET FOR IMPLEMENTING NETWORK

Instructional Computing Support Fund

The appropriation in this fund will be allocated among school districts, community colleges and state university colleges of education upon approval of their instructional computing support plans.

The allocations can be used to help implement those plans. Appropriate uses include staff training (provided these allocations do not supplant teacher education center funds); hardware and software for classroom or school management; hardware and software to expand the use of computers as a learning tool (as contrasted with tutorial uses); and hardware, software and communication lines to link individual schools with the instructional computing support network.

The recommended budget is based upon \$8.00 per unweighted FTE in 1986-87, \$10.50 per unweighted FTE in 1987-88, and \$5.25 per unweighted FTE in 1988-89. These allocations apply to both school districts and community colleges. Allocations for colleges of education are based on \$35.00 per 1985-86 teacher education graduate, \$52.50 per 1986-87 teacher education graduate, and \$26.25 per 1987-88 teacher education graduate.

	1986-87	1987-88	1988-89
School Districts	11,839,310	17,758,965	8,879,482
Community Colleges	919,303	1,378,954	689,477
SUS Colleges of Education	114,065	171,098	85,549
Total	12,872,678	19,309,017	9,654,508

Technology Demonstration Projects

These grants are intended to stimulate creativity and innovation at the local level. The budget is for 32 projects each year funded at \$8,000 from state funds, with equal matching of local funds. Administration of the grants and dissemination of the results will be handled by the Department of Education.

	1986-87	1987-88	1988-89
Grants	256,000	256,000	256,000
Administration and Dissemination	24,000	24,000	24,000
Total	280,000	280,000	280,000

Enhancing Instructional Computing Support Capabilities of FIRN

The FIRN network staff will identify one or more mainframe computers to support the "people network" with special data bases and modified access methods designed specifically for use by teachers and other non-technical personnel.

	1986-87	1987-88	1988-89
Hardware/Software Cost	850,000	200,000	350,000

Supplemental Support for Resource Centers

Approximately 10 grants averaging \$25,000 each will be made each year to resource centers. These funds will be used to refine information compiled by those centers and put it in a format for convenient access through the instructional computing resource network.

	1986-87	1987-88	1988-89
Resource Center Grants	250,000	250,000	250,000

State Coordination

Three professionals and one secretary will be added to the Department of Education staff to provide instructional computing support. The positions will be contracted positions for a three-year duration. One will be an educational consultant knowledgeable about computers whose main responsibility will be coordinating the review of instructional computing support plans developed by districts and institutions. A second will be a person knowledgeable about both computing and instruction whose main responsibility will be working with the resource centers to make instructional computing support materials available to the network. A third will be a technically oriented person who will advise districts and institutions on equipment and will maintain a hotline for addressing technical problems relating to instructional computing support through FIRN.

	1986-87	1987-88	1988-89
State Coordination	175,000	175,000	175,000
Total Recommended Budget	14,427,676	20,214,017	10,709,508



State of Florida
Department of Education
Tallahassee, Florida
Ralph D. Turlington, Commissioner
Affirmative action/equal opportunity employer

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